

[Short Communication]

Additional morphological information on the holotype of *Arrup ishii* Uliana, Bonato & Minelli 2007 (Chilopoda: Geophilomorpha: Mecistocephalidae)

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Abstract — Morphological information on mandible, forcipular segment, ultimate leg-bearing and postpedal segments of the holotype of *Arrup ishii* Uliana, Bonato & Minelli 2007 are supplemented to the original description. The newly provided information might be useful for species delimitation when similar species will be further discovered.

Key words — forcipular segment, genital segments, mandible, morphology, Myriapoda, postpedal segments, taxonomy

The mecistocephalid centipede species *Arrup ishii* Uliana, Bonato & Minelli 2007 was described from Japan. Information on mandible and postpedal segments, and photographs of species diagnostic characteristics are not provided in the original description. This causes difficulties in differentiating among *A. ishii* and morphologically similar species (Tsukamoto et al. 2019). Furthermore, Japanese and other populations of *A. hostii* might be easily confused with *A. ishii* in some literature (e.g., Takakuwa 1940, Miyosi & Takakuwa 1965) because some of their characteristics such as body length and the number of coxal pores are consistent with the description of *A. ishii* rather than that of *A. hostii* (see Uliana et al. 2007). Very recently we located the holotype of *A. ishii*, which had not yet been deposited unintentionally into the depository designated in the original description, and had opportunity to observe it. After our examination, the holotype of *A. ishii* was safely deposited at the Collection of Myriapoda, Department of Zoology, National Museum of Nature and Science, Tokyo (NMST).

We herein provide additional information on mandible and postpedal segments. In addition, we also provide a photograph of forcipular segment, which bear some species-level diagnostic characters in the order Geophilomorpha (Bonato & Minelli 2009), of the holotype of *A. ishii*. The information might also be useful for species delimitation when species morphologically similar to *A. ishii* are further discovered.

Arrup ishii Uliana, Bonato & Minelli 2007
[Japanese name: Ishii-tsumejimukade]
(Fig. 1A–E)

Arrup ishii Uliana, Bonato & Minelli 2007, p. 17, figs. 14–17 [male holotype; examined]; Shinohara, Takano & Ishii 2015, p. 908.

Material examined. Holotype, male, Hon-noo, Mobara city, Chiba Prefecture, Japan, 3rd of December 1997, coll. Kiyoshi Ishii.

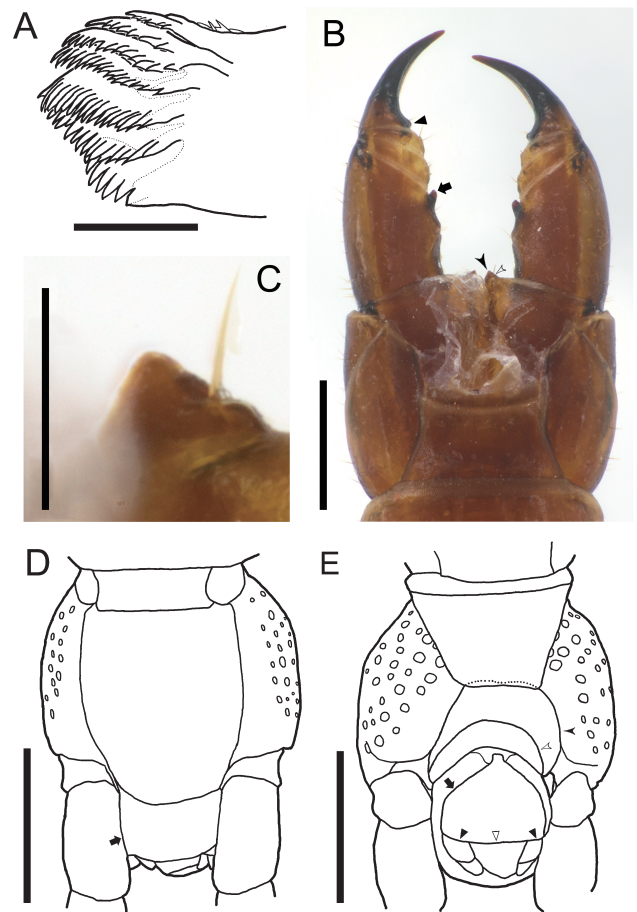


Fig. 1. *Arrup ishii* Uliana, Bonato & Minelli 2007, holotype (male). A, right mandible, dorsal; B, forcipular segment, dorsal; C, forcipular denticle, dorsal; D, ultimate leg-bearing segment and genital segment, dorsal; E, ultimate leg-bearing segment and genital segment, ventral. Scales = 100 μ m (A, C); 750 μ m (B); 500 μ m (D–E). Setae not drawn in D and E.

Table 1. Number of the right pectinate lamellae and teeth of *Arrup ishiianus* Uliana, Bonato & Minelli 2007, holotype.

Number of Pectinate lamellae	I	II	III	IV	V	VI	VII
Number of the teeth	6	15	18	16	13	7	6

Description of additional morphological characters.

Mandible (Fig. 1A). Right mandible with 7 pectinate lamellae. Lamellar teeth sharp; 6–18 teeth present in each lamella (Table 1); anterior tooth gradually longer than posterior one in each lamella.

Forcipular segment (Fig. 1B–C). Forcipular denticle triangular (filled arrowhead in Fig. 1B, Fig. 1C), with a seta on the bottom (open arrowhead in Fig. 1B, Fig. 1C). Forciple with a blackish rounded tooth on article I (filled arrow in Fig. 1B) and a blackish rounded tooth on tarsungulum (filled triangle in Fig. 1B).

Postpedal segments (Fig. 1D–E). Postpedal segments with setae arranged almost symmetrically. Genital tergite with posterior margin slightly convex (filled arrow in Fig. 1D). Intermediate pleurite with posterior margin strongly concave, without suture (filled arrowhead in Fig. 1E). Posterior margin of intermediate sternite almost straight in ventral view (but moderately concave in posteroventral view as in Fig. 1E; blanked arrowhead in Fig. 1E). First genital sternite with anterolateral margins converging anteriorly, with posterior margin almost straight (filled arrow in Fig. 1E). Gonopod biarticulate (filled triangle in Fig. 1E). Penis triangular (blanked triangle in Fig. 1E). Anal pore not visible (telson is shrunked).

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